UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,622	10/31/2001	Jonathan K. Rick	83630DMW	4926

7590	04/06/2004

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EXAMINER
FOULADI SEMNANI, FARANAK

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 04/06/2004

/O

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 January 2004_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
      closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-17 and 19-23_ is/are pending in the application.

       4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-17 and 19-23_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

       Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

       a)☐ All   b)☐ Some * c)☐ None of:

          1.☐ Certified copies of the priority documents have been received.

          2.☐ Certified copies of the priority documents have been received in Application No. _____.

          3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
              application from the International Bureau (PCT Rule 17.2(a)).

       * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
      Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
      Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Application filed on 10/31/2001.

2. Claims 1-17, 19-23 are pending in the case, with claims 1, 11, 21 and 22 being independent.

3. Claims 18 and 24 were cancelled.

4. The present title of the application is "Method and apparatus for generating image transitions" (as originally filed).

5. **THIS ACTION IS MADE FINAL.**

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-17, 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Jun et al. in Proceedings of the eighth ACM international conference on Multimedia published October 2000, hereafter Jun.

7. Regarding Independent claim 1, Jun teaches in section 3.1 first paragraph (on page 392) "In order to select candidates for dissolve transition in the compressed domain, we examine the spatio-temporal macro block type distribution of **each B-type frame** which is located right before or after anchor frame in display sequence." Jun further disclose "In Figure 2, **each selected frame is B-type frame** adjacent to an anchor frame." Furthermore, Jun disclose in first column of page 393 in the third paragraph "Note that **only B-type** frames which is adjacent to anchor frames **are** considered in this stage."

8. Regarding dependent claim 2,"the method as claimed in claim 1 wherein the pictures are comprised of macro blocks and wherein the insertion of the B pictures into the bitstream to create the transition from the first anchor picture to the second anchor picture comprises starting with a B picture in which most of the macro blocks are predicted from the first anchor picture and ending with a B picture in which most of the macro blocks are predicted from the second anchor picture." Jun teaches in section 3.1 on page 392.

9. Regarding dependent claim 3,"the method as claimed in claim 1 wherein the pictures are comprised of macro blocks and wherein the insertion of the B pictures into the bitstream to create the transition from the first anchor picture to the second anchor picture comprises switching a number of macro blocks in each of the B pictures from being forward predicted to being backward predicted." Jun teaches in section 3.1 on page 393 (left column).

10. Regarding dependent claim 4, "the method as claimed in claim 3 wherein the insertion of the B pictures into the bitstream to create the transition from the first anchor picture to the second anchor picture comprises randomly switching a predetermined number of macro blocks in each of the B pictures from being forward predicted to being backward predicted." Jun teaches in section 3.1 on right column, second paragraph of page 392 through 3.2 on page 393 (left and right columns).

11. Regarding dependent claim 5, "the method claimed in claim 1, where the first and second anchor pictures in step a) correspond to a last anchor picture in a first video sequence and a first anchor picture in a second video sequence." Jun teaches in last paragraph of section 3.1 on page 393.

12. Regarding dependent claim 6, "the method claimed in claim 5, where the video sequences comprise a group of still images." Jun teaches in section 4 lines 1 in first paragraph on page 393.

13. Regarding dependent claim 7, "the method claimed in claim 1, where the B pictures in step b) comprise macro blocks that are forward predicted, backward predicted, or interpolated." Jun teaches in section 3.1 in last paragraph, right column, page 392.

14. Regarding dependent claim 8, "the method claimed in claim 7, where none of the macro blocks contain DCT coefficients." Jun teaches in section 3.1 in last paragraph, right column, page 392.

15. Regarding dependent claim 9, "the method claimed in claim 7, where each of the macro blocks contain motion vectors that are (0,0)." Jun teaches in section 3.1 in last paragraph, right column, page 392.

16. Regarding dependent claim 10, it is inherent to have a computer readable media to store or transport computer readable code in a computer system. For example compact disc has been included and used in the computer systems since 1990s or magnetic data storage devices have been used since 1980s.

17. Regarding independent claim 11, Jun disclose in first column of page 393 last paragraph a method where a sequence of type P pictures is used "*SpatDist(A)* is a spatial distribution measure of the macro blocks of type A. If A is Fwd, we calculate spatial distribution measure for forward predicted macro blocks and if the A is Bwd, calculate spatial distribution measure for backward predicted macro blocks."

18. Claims 12-17 recite a method for encoding a transition in an MPEG bitstream sequence which are similar in scope to claims 1-10 therefore are rejected under the same rationale.

19. Independent claims 21 and 22 are similar to claims 1 and 11 and therefore are rejected under the same rational and also are further disclosed in last paragraph of the second column on page 392. Jun disclose in page 392 macro blocks predicted from the first anchor picture (forward type) or a previous inserted P picture and intracoded (I) macro blocks copied from the second anchor picture (backward type).

20. Claim 23 is rejected because applicant has admitted in the specification page 4

line 29-30 that in MPEG similar to JPEG encoding , in a predicted macro block, a

motion vector describes where in the previous anchor picture (I or P picture) to

obtain the initial prediction of the current macro block.

Response to Arguments

21. Applicant's arguments filed on 01/05/04 have been fully considered but they are

not persuasive.

22. Applicant argues on page 10 line 9-11 of amendment A "*Claim 1 requires:*

'...coding a transition in the bitstream by inserting only B pictures into the

bitstream...' Jun disclose a mixed sequence of types B and P pictures".

Examiner disagrees because Jun teaches in section 3.1 first paragraph (on page

392) "In order to select candidates for dissolve transition in the compressed

domain, we examine the spatio-temporal macro block type distribution of **each B-**

type frame which is located right before or after anchor frame in display

sequence." Jun further disclose "In Figure 2, **each selected frame is B-type**

frame adjacent to an anchor frame." Furthermore, Jun disclose in first column of

page 393 in the third paragraph "Note that **only B-type** frames which is adjacent

to anchor frames **are** considered in this stage."

23. Applicant argues on page 10 line 26-29 of amendment A "*Claim 11 requires:*

'...coding a transition in the bitstream by inserting only P pictures into the

bitstream...' Jun disclose a mixed sequence of types B and P pictures".

Examiner disagrees because Jun discloses in first column of page 393 last

paragraph a method where a sequence of type P pictures is used "*SpatDist(A)* is

a spatial distribution measure of the macro blocks of type A. If A is Fwd, we

calculate spatial distribution measure for forward predicted macro blocks and if

the A is Bwd, calculate spatial distribution measure for backward predicted macro

blocks."

24. Applicant argues on page 11 lines 14-16 of amendment A "*Claims 14-16 each*

require that the pictures are comprised of macro blocks that are either intra

coded or predicted. This is not compatible with the B pictures shown in Figure 1

of Jun and discussed at length in Section 3.1 of Jun." Examiner disagrees

because claims 14-16 claims "the pictures are comprised of macro blocks that

are either intra coded or predicted" Jun disclose in first column if page 393 in

third paragraph "Based on the above two conditions on macro block type

distribution, candidates for dissolve transition are selected."

25. Applicant argues on page 11 lines 18-20 of amendment A "*Claim 14 also*

requires that the second anchor picture is replaced with a P picture. Where does

Jun disclose replacement of an anchor picture with a P picture?"

Jun disclose in Fig. 1 and lines 7-8 of first paragraph in Section 3.1 page 392 "I

and P frames are anchor frames, and shaded frames denote B frames adjacent

to an anchor frame."

26. Applicant argues on page 11 line 21-24 of amendment A "*Claim 15 also requires*

that the inserted P pictures comprise of macro blocks predicted from either the

first anchor picture or a previous inserted P picture and intra coded macro blocks

copied from the second anchor picture. Where is this disclosed in Jun?"

Jun disclose in page 392 macro blocks predicted from the first anchor picture

(forward type) or a previous inserted P picture and intracoded (I) macro blocks

copied from the second anchor picture (backward type).

27. Applicant argues on page 11 line 25-27 of amendment A "*Claims 16 requires that*

the predicted macro blocks contain motion vectors that are comprised of

horizontal and vertical components that are integer multiples of 16? Where is this

disclosed in Jun?" In MPEG all the macro blocks include motion vector and

applicant has also admitted it in the specification page 4 lines 29-30, but motion

vector comprised of horizontal and vertical component has not been described in

the specification.

Conclusion

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

29. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See PTO-892 form.

30. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Faranak Fouladi whose telephone number is 703-

305-3223. The examiner can normally be reached on Mon-Fri from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael Razavi can be reach at 703-305-4713.

Any response to this action should be mailed to:

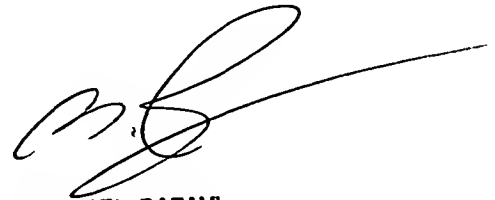Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service

Office whose telephone number is 703-306-0377.

Faranak Fouladi-Semnani
Patent Examiner
Art Unit 2672

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600